

# Chronic pyonephrosis mimicking retroperitoneal liposarcoma

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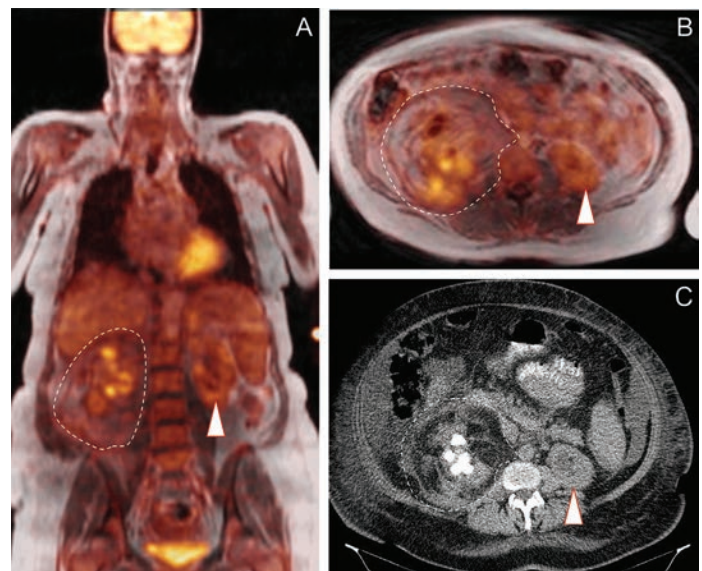
**ABSTRACT** A 45-year old obese female presented with rapid weight gain of 20 kg, ascites and pleural effusion. Computed tomography (CT) and <sup>18</sup>F-fluorodeoxyglucose positron emission tomography/magnetic resonance tomography were suggestive of retroperitoneal liposarcoma that was eventually suspected in the nephrectomy specimen as well. After objection by the surgeons who underlined the obviously inflammatory intraoperative findings due to stone disease and renal destruction, a reevaluation with MDM2-fluorescence in situ hybridization eventually ruled out liposarcoma and confirmed inflammatory pseudotumor. No recurrence was observed 5 years later.

## KEYWORDS

liposarcoma, inflammation, abscess, pyonephrosis, differential diagnosis, computed tomography, positron emission tomography/magnetic resonance tomography

A 45-year-old obese female presented with rapid weight gain, palpable right-sided abdominal tumor, ascites, and pleural effusion. Computed tomography (CT) and <sup>18</sup>F-fluorodeoxyglucose positron emission tomography/magnetic resonance tomography revealed a huge right-sided fat-containing retroperitoneal mass surrounding an atrophic kidney with a staghorn calculus (Figure 1). Liposarcoma was suspected. CT-guided biopsy did, however, not confirm malignancy. At nephrectomy, a specimen measuring 20 cm × 15 cm × 9 cm containing abscesses was removed. A duodenal lesion required closure and omentum flap coverage 1 day later. At histopathological examination, perirenal well-differentiated liposarcoma with positive margins was diagnosed. After objection by the surgeons who underlined the obviously inflammatory intraoperative findings, reevaluation with MDM2-fluorescence in situ hybridization (Figure 2) eventually ruled out liposarcoma and confirmed chronic inflammation of fatty tissue. No recurrence was observed during 5 years of follow-up.

Misinterpretation of fat inflammation and necrosis as liposarcoma has occasionally been reported.<sup>1-3</sup> The current case illustrates that inflammation of perirenal fat due to chronic pyonephrosis may



**Figure 1** <sup>18</sup>F-fluorodeoxyglucose positron emission tomography/magnetic resonance tomography (A, B) and native computed tomography (C) images showing a huge retroperitoneal fat-containing mass (dashed lines) surrounding an atrophic kidney containing a staghorn calculus (C); arrowheads: left-sided kidney for comparison of size. There was no increased tracer uptake in the inflammatory pseudotumor except from the tracer filling of dilated renal calices.

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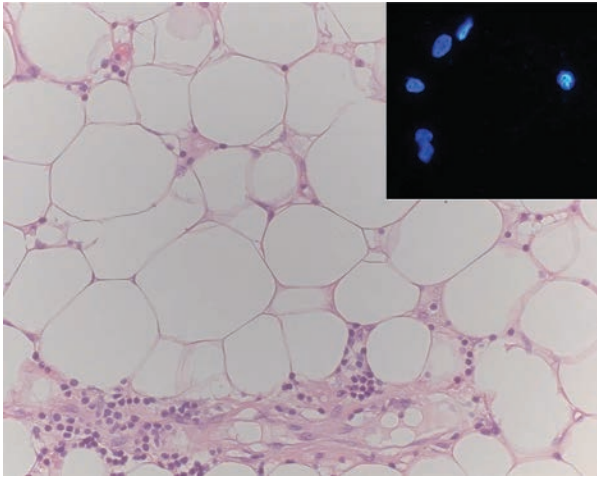
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**Figure 2** Microphotograph of the pseudotumor showing inflamed fatty tissue resembling well differentiated liposarcoma (H&E, original magnification 200×). Liposarcoma was eventually ruled out by negative MDM2-fluorescence in situ hybridization (inset).

not only mimic typical imaging findings of retroperitoneal liposarcoma but also may mislead pathologists particularly in the case of previous inconclusive biopsy with clinical suspicion of liposarcoma. Awareness of this constellation may avoid unnecessary biopsies, emotional distress, and overtreatment.

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